UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,537	10/31/2003	Teruo Tamada	KYFT-US	9947

24222 7590 11/17/2004

MAINE & ASMUS
100 MAIN STREET
P O BOX 3445
NASHUA, NH 03061-3445

EXAMINER	
SCHWARTZ, CHRISTOPHER P	
ART UNIT	**PAPER NUMBER**
3683	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/698,537	TAMADA ET AL.
	Examiner	Art Unit
	Christopher P. Schwartz	3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response filed August 13, 2004 has been received and considered. None of the claims have been amended to define over the prior art applied in the previous action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-10,12,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamada et al.

Regarding claim 1 Tamada et al. discloses a system for absorbing energy in figures 3 and 4, with which applicant's are well familiar, including an energy absorbing member 3 comprising first and second opposing walls 8,9 and at least one rib 10

disposed therebetween. And although the absorbing member comprises polyolefin based and amorphous resins, Tamada et al. lacks discussing the particular percentages of each. See column 5 of Tamada et al.

One having ordinary skill in the art at the time of the invention would have found it obvious to have made the absorbing member of Tamada et al. with the claimed resins in the percentages required simply dependent upon the shock absorbing characteristics desired from the absorbing member or vehicle safety standards demanded from the bumper.

Regarding claim 2, as discussed in column 5 lines 14-15, these requirements are met.

Regarding claim 3 to have selected a thermoplastic having the claimed Izod impact value from the list of materials that may be blended, as discussed in column 5 of Tamada et al., would have been obvious to the ordinary skilled worker in the art at the time of the invention simply dependent upon the energy absorbing characteristics desired or to meet specific vehicle safety standards.

Regarding claim 4 these requirements are met.

Regarding claims 5,6 see the discussion in column 2 line 36. In view of the discussion above and the several embodiments shown by Tamada et al., these requirements are met.

Regarding claims 7 and 8 notwithstanding applicants embodiment having a flexural modulus of elasticity of between 9,000-22,000 kg/cm/cm one having ordinary skill in the art at the time of the invention would have found it obvious to have selected a

thermoplastic having the claimed flexural modulus of not greater than 200 kg/cm/cm based on the energy absorbing characteristics desired or to meet predefined vehicle safety standards. It is well known in the art to manufacture and use impact absorbers having generally the claimed flexural modulus. Applicants lack any particular criticality in the specification for this embodiment.

Regarding claims 9,10 in light of the discussions above, these requirements are met.

Regarding claims 12,13 these limitations would have been obvious to the ordinary skilled worker in the art at the time of the invention dependent upon the energy absorbing characteristics desired.

5. Claims 11,14 rejected under 35 U.S.C. 103(a) as being unpatentable over Tamada et al. in view of Suzuki et al..

Regarding claim 11 although Tamada et al. does not explicitly state the resins that may be used may comprise "olefin based elastomers", or rather, certain types of rubberized materials, such an idea is known and is generally taught by Suzuki et al. in column 12 lines 32-34.

One having ordinary skill in the art at the time the invention was made would have found it obvious to have used one of the claimed olefin based elastomers in the formation of the bumper of Tamada et al., as suggested by Suzuki et al., dependent upon the energy absorbing characteristics desired.

Regarding claim 14, in view of the discussion above, these requirements are met.

Response to Arguments

6. Applicant's arguments filed August 13, 2004 have been fully considered but they are not persuasive. Applicants primary argument seems to be that the specific ratio blends of polyphenylene ether (PPE) resin added to Polypropylene (PP), as recited in the specification in Table 1 and discussed with the comparative examples, offer an energy absorber that experiences lower stress change values with a certain degree of fluctuation in temperature.

Applicant's argue that the results of blending Polyphenylene ether (PPE) resin with Polypropylene resin are counter-intuitive and unexpected, but state that while a "35-75% fraction of amorphous resin in a polyolefin base would be expected to produce an improvement over pure polyolefin resins, it was unexpected that such blends would produce the significantly improved stress change reduction over both resins, and thus allow the optimal function of impact absorbent components...".

It is noted however from page 13 that many other types of amorphous resins may be utilized to achieve similar results.

Applicant's prior patent discloses a similar energy absorbing device having many similar properties (see cols 2 and 5) as that of the present application. Column 5 lists many of the same resins used to form the bumper of '079 as the present invention. Also stated in col 5 is that the blends of these resins (line 31) may also be utilized for the bumper of '079.

It is notoriously well known in the art that many elastomeric/rubber type "resins" and mixtures thereof offer decreased impact absorbing ability as the temperature drops

(they become stiffer/harder) and offer increased absorbing ability as the temperature rises (they become more compliant/softer).

Although not relied upon the newly cited reference to Evans et al. discloses a thermoplastic bumper with a predictable loading response to overcome the aforesaid stated disadvantages, as discussed in col 1 lines 29-42.

While applicant's results of the blend of PPE and PP resins may show "significantly improved" impact absorbing capability over a range of temperatures than what either of the resins could produce alone, it is not entirely unexpected, as seen by comparing Comparative Example 2" (presumed to be prior art) with Example 1 (presumed to be applicant's invention) -- let alone nonobvious.

It is known from '079 to blend such resins, the result of which has many of the same properties as that of applicants (see col 5), to form a bumper with improved safety. Because such bumpers must meet safety requirements under varying temperatures one having ordinary skill in the art would have found it obvious (or an equivalent thereof) to blend the claimed resins to achieve optimal results—that is a bumper with a predictable loading response as the temperature varies over a specified range. This would be done through routine experimentation and testing. Applicant's arguments also present limitations that are more specific than what has been claimed in the claims

Lastly, it appears applicant's claimed range in percentage by weight of the "amorphous" resin to that of the polyolefin resin produces only an *expected difference* in "degree" of a desired limited stress change as the temperature varies, not an

unexpected result. No declaration or affidavit containing a statement from the inventors has been submitted to the effect that the claimed percentage blend of the polyolefin and amorphous resins produced the unexpected results stated by applicant's counsel in their remarks.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 703-308-0576. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

Cps
11/13/04